

Figure - 1

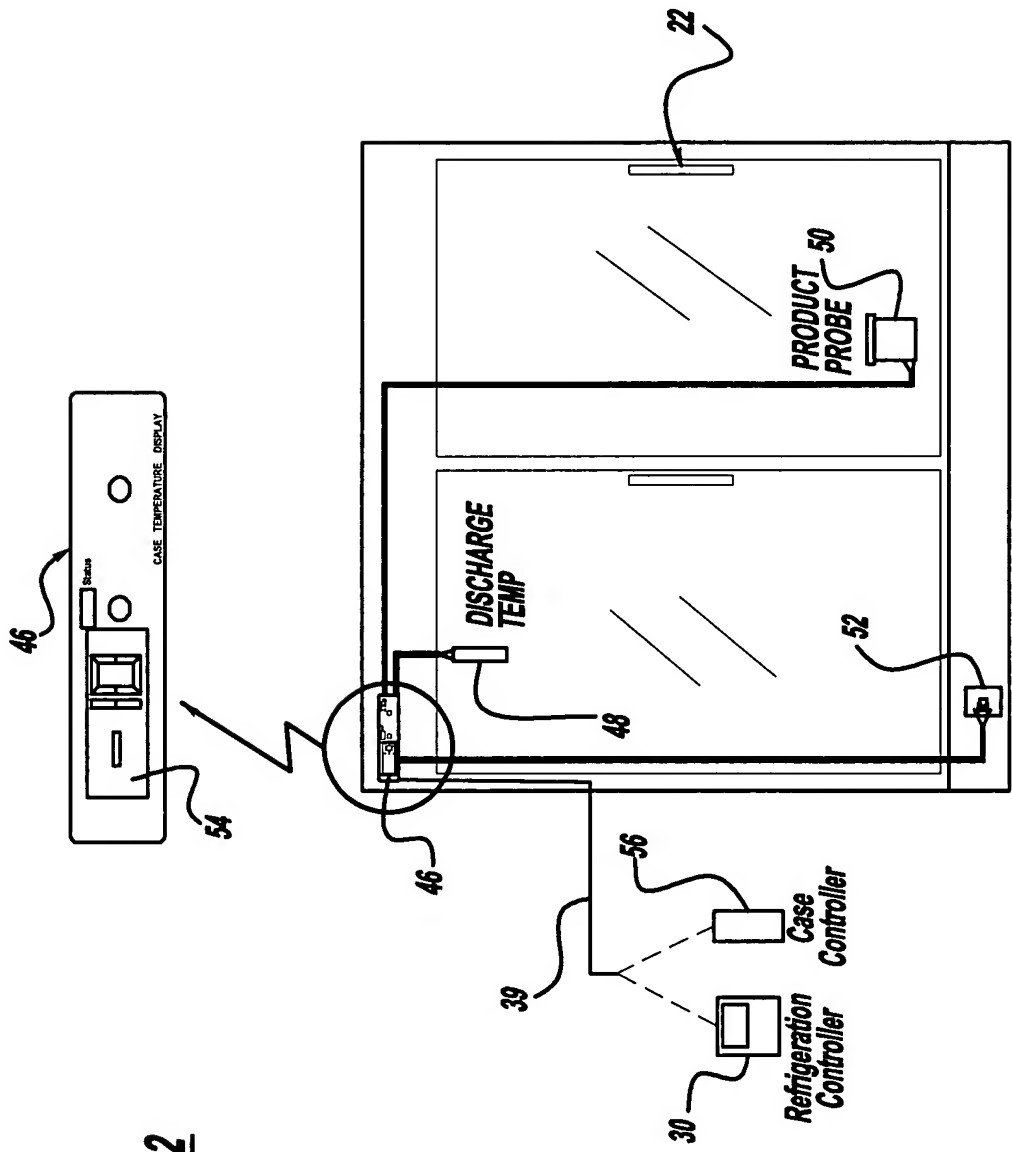


Figure - 2

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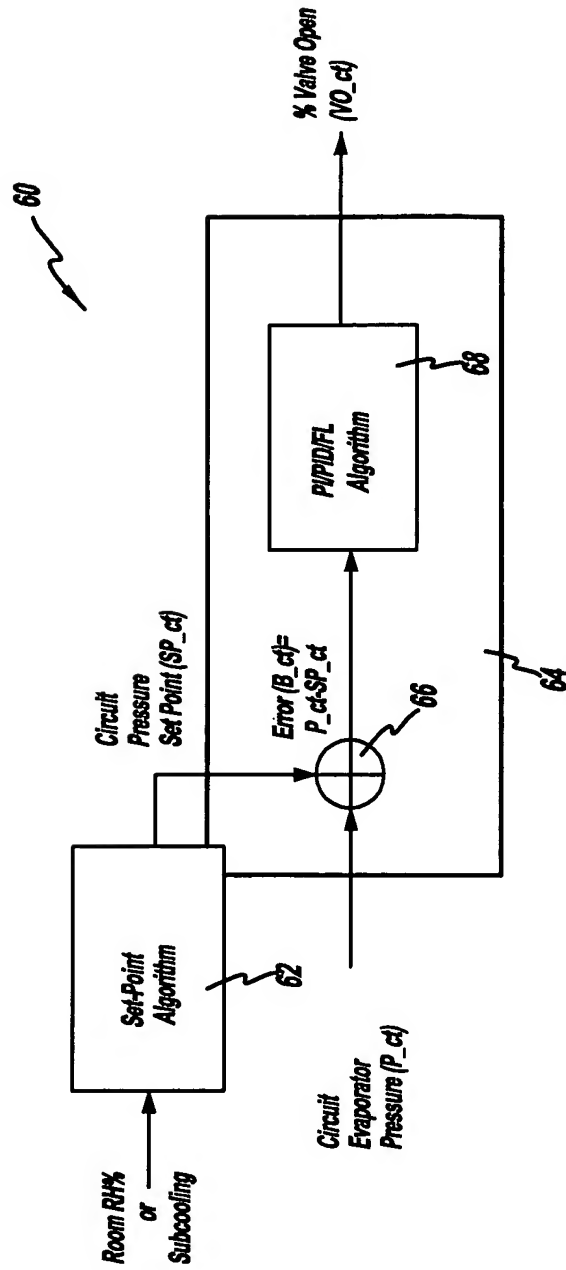


Figure - 3

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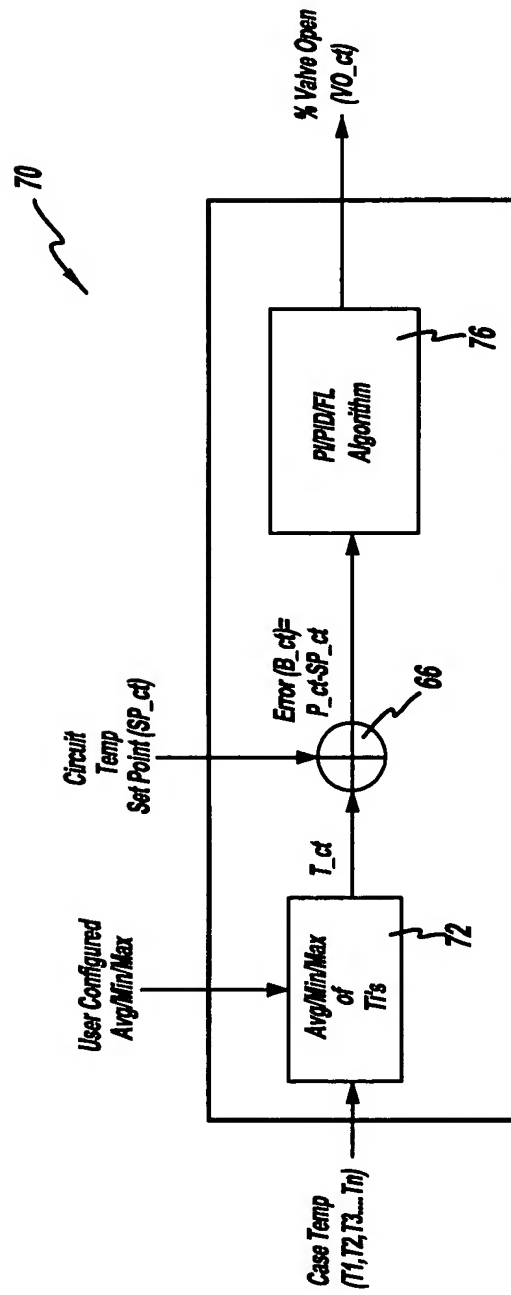


Figure - 4

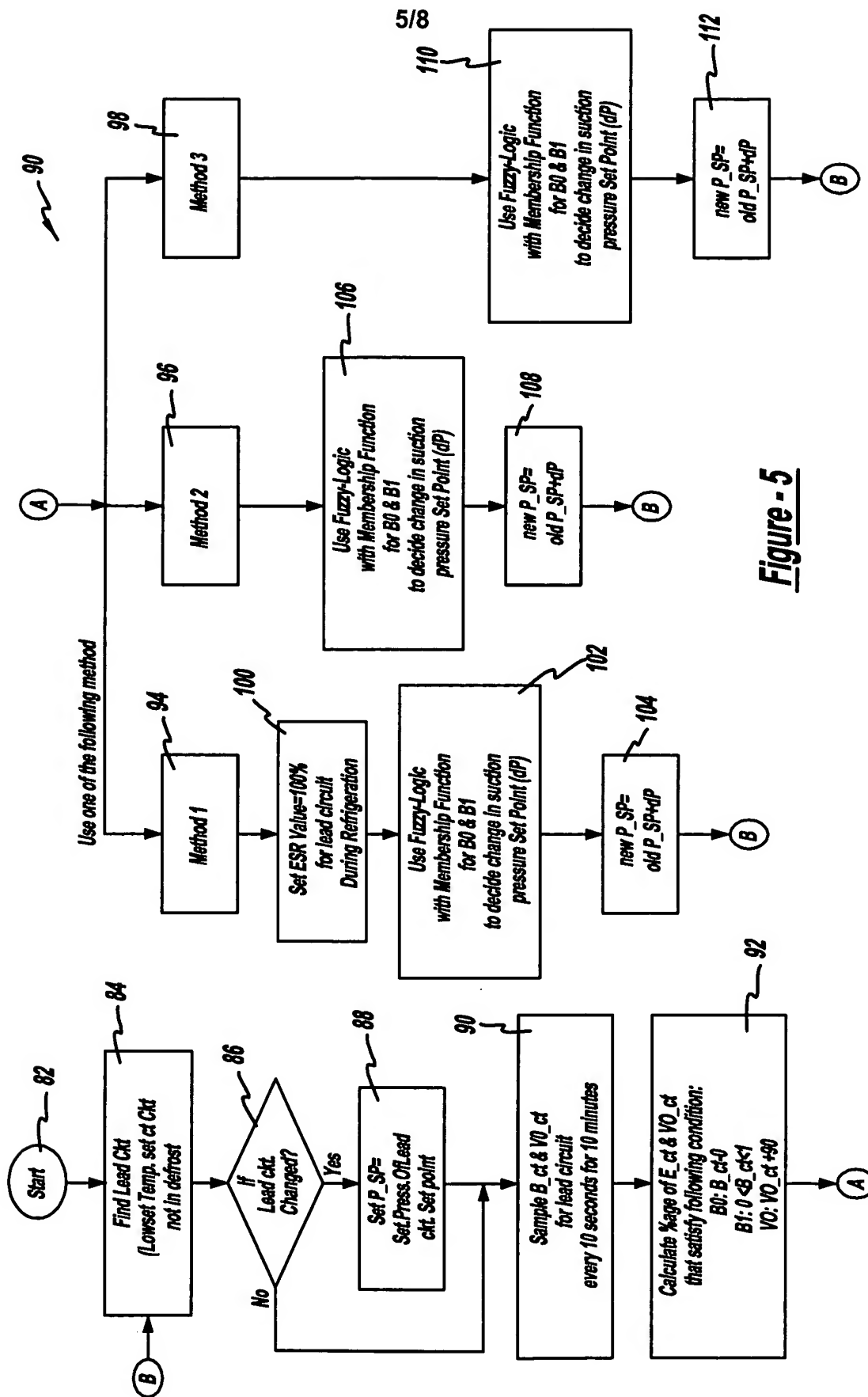
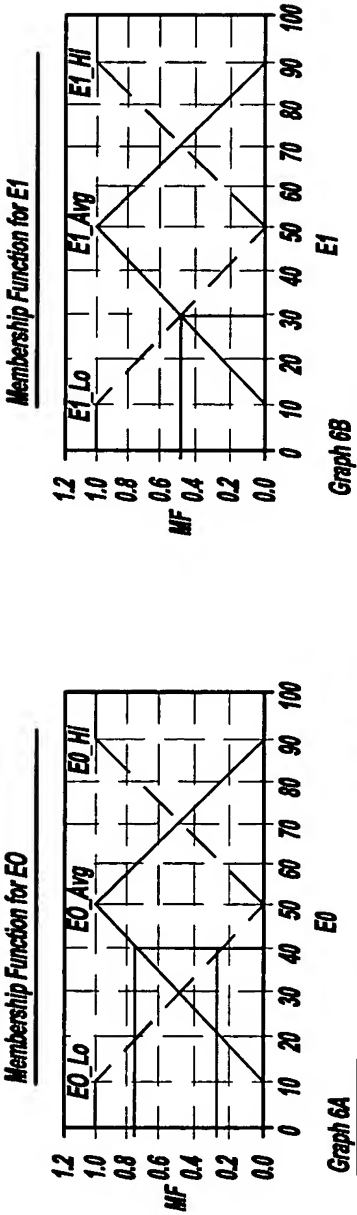


Figure - 5

Figure - 6



Note: E0 is the percentage of E_{ct} that is less than zero in 10 minute duration
E1 is the percentage of E_{ct} that is between zero and 1 F in 10 minute duration

TRUTH TABLE 6C

E0()	E1()	1	2	3
		Lo	Avg	HI
1	Lo	NBC	NSC	NC
2	Avg.	PSC	PSC	PSC
3	Hi	PBC	PBC	PBC

Quantity Changed:

- NBC: Negative Big Change=-2 Psi
- NSC: Negative Small Change=-1 Psi
- NC: No Change=0 Psi
- PSC: Positive Small Change=+1 Psi
- PBC: Positive Big Change=+2 Psi

Sample Calculation: For E0=40%; E1=30%

Step1: Fuzzification:

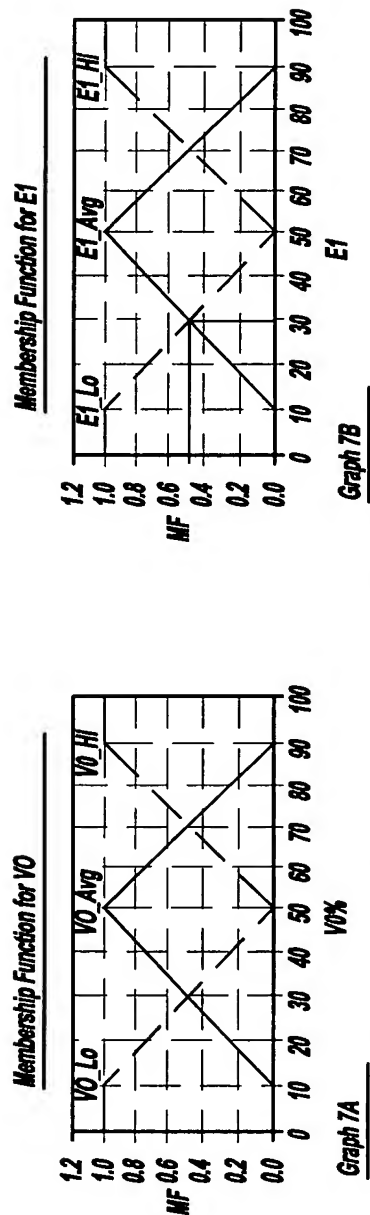
For E0=40% from Mem. Function Chart for E0 we get E0_{Lo}=0.25; E0_{Avg}=0.75
For E1=30% from Mem. Function Chart for E1 we get E1_{Lo}=0.5; E1_{Avg}=0.5

Step2: MinMax: Refer to Truth Table

E0_{Lo}=0.25 and E1_{Lo}=0.5 \Rightarrow NBC=Min(0.25,0.5)=0.25
E0_{Lo}=0.25 and E1_{Avg}=0.5 \Rightarrow NBC=Min(0.25,0.5)=0.25
E0_{Avg}=0.75 and E1_{Lo}=0.5 \Rightarrow PSC=Min(0.75,0.5)=0.50
E0_{Avg}=0.75 and E1_{Avg}=0.5 \Rightarrow PSC=Min(0.75,0.5)=0.50
Now take maximum of common one that is PSC=0.50; NSC=0.25; NBC=0.25

Step3: Defuzzification Step:

Net Pressure set Point Change=1*PSC+1*NSC+2*NBC/ (PSC+NSC+NBC)
 $=1*0.50+1*0.25+2*0.25/ (0.5+0.25+0.25)$
 $=0.25$



TRUTH TABLE 7C			
E1(J)	1	2	3
VO(I)	Lo	Avg	HI
1	Lo	PBC	PBC
2	Avg.	PSC	PSC
3	HI	NBC	NC

Quantity Changed:

- NBC: Negative Big Change=-2 Psi
- NSC: Negative Small Change=-1 Psi
- NC: No Change=0 Psi
- PSC: Positive Small Change=+1 Psi
- PBC: Positive Big Change=+2 Psi

Figure - 7

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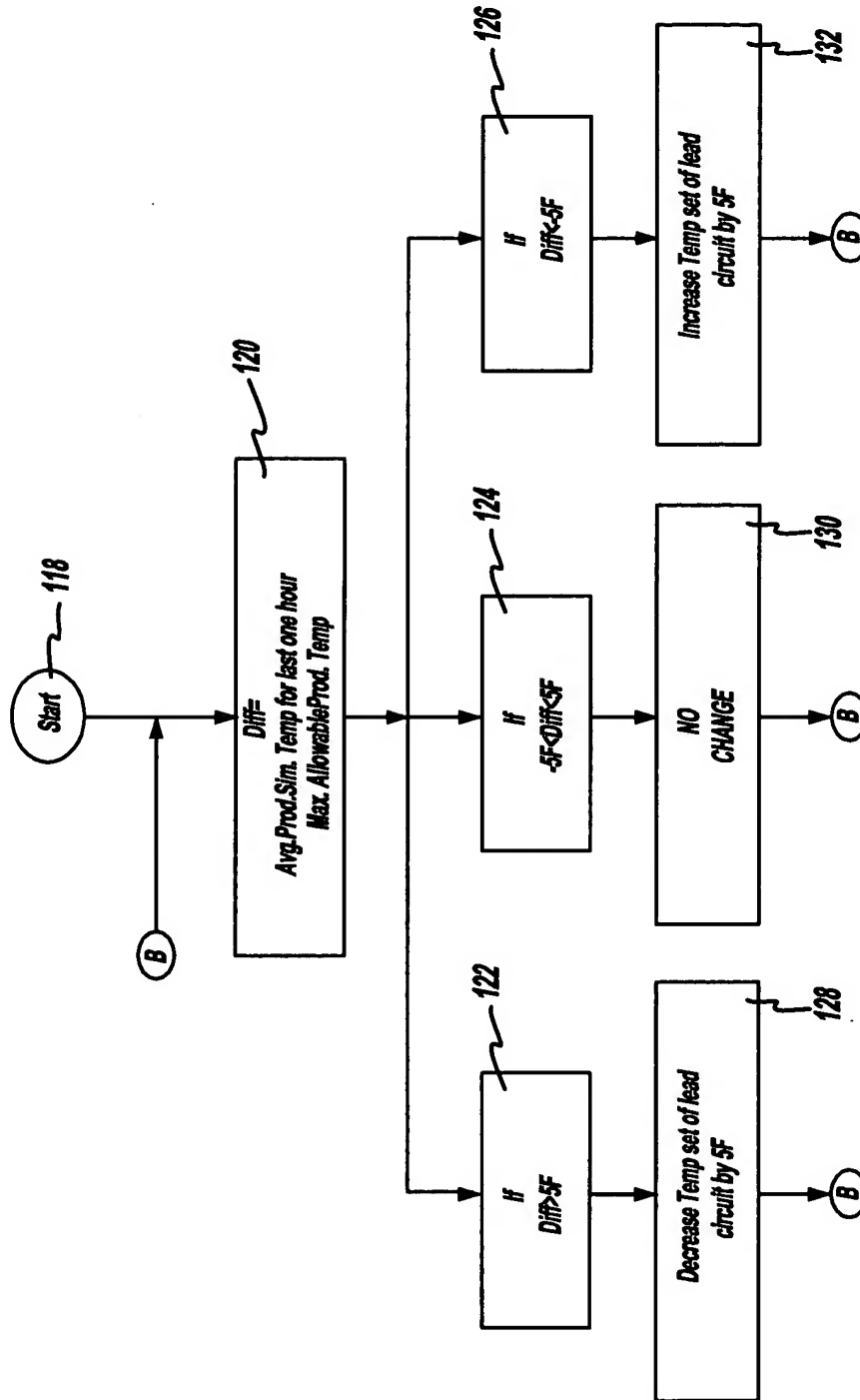


Figure - 8